ANALYTICAL ABSTRACTS

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The Society for Analytical Chemistry

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ERRATA

Some errata subsequently published in the journals abstracted are included in the following list. When t initials of given names in the Author Index and in the abstracts do not agree, the Index should be assume to be correct.

VOL. 15, 1968

Index, p. 92, *insert* **Jouannelle, J.** See **Girard, M.-L.,** 2452. *after entry for* **Josserand, P.**
Index, p. 98, *insert* **Kerényi, I.** See **Kelemen** (née **Küttel**), **I.,** 3548. *after entry for* **Kerecsényi Herman M.**
Index, p. 147, column 2, line 25, *for* 3796 *read* 3896
Index, p. 206, column 1, line 56, *for* **Wagner, Hans.** *read* **Wagner, Heinz.**

VOL. 16, 1969

Index, p. 49, column 1, line 55, *for* **Szczaepaniak, S.,** *read* **Szczepaniak, S.**

VOL. 17, 1969

Abstract No.	*Line*	
3000	2	*for* E. Mirta Aseem *read* E. M. Assem de Juarez. Appropriate modifications should be made to the Author Index for Vol. 17, 1969.

VOL. 18, 1970

Index, p. 9, column 1, line 24, *for* **Srivastava, Cailash C.,** *read* **Srivastava, Kailash C.,**
Index, p. 15, column 1, line 38, *for* **Michailova, V.,** 596. *read* **Mikhailova, V.,** 595.
Index, p. 15, column 2, line 59, *for* **Strelow, F. W. D.** *read* **Strelow, F. W. E.**
Index, p. 19, column 2, lines 54, 55, *for* **Nersesvants, A. B.** *read* **Nersesyants, A. B.**
Index, p. 22, column 2, line 62, *for* **Chrekrian, G. P.** *read* **Chrekian, G. P.**
Index, p. 33, column 2, line 12, *for* **Michailova, V.,** 596. *read* **Mikhailova, V.,** 595.
Index, p. 52, column 1, line 69, *for* 3416 *read* 3411
Index, p. 74, column 1, line 12, *for* **Wood, R.** *read* **Wood, Randall**
Index, p. 76, column 1, *transpose the following entries* **Matocha, C. K.** and **Petit, John.** Spectrochemica analysis of aluminium alloys using nitrogen-gas shielding and point-to-plane spark excitation, 811
— **Tegyey, Z., Gondos, G.,** and **Balaspiri, L.** TLC of isomeric steroid oximes and their lactams. V. 3β Acetoxy- and 3β-benzoyloxy-cholestane, and 3β-acetoxy-substituted cholest-5-en-7-one an cholestan-7-one and their derivatives, 413.
Index, p. 78, column 1, lines 66, 67, 68, *amend this entry to read* **Mikhailova, V., Evtimova, B.,** an **Bonchev, P. R.** Catalytic determination of micro amounts of zinc, 595. *and transpose this entry t follow the entry for* **Mikhailova, N. N., Lazorenko, L. M.,** and **Timokhina, Z. K.**
Index, p. 88, column 1, line 19, *this line should read* **Papanastassiou, D. A.** See **Wasserburg, G. J.,** 4517
Index, p. 105, column 2, line 7, *for* **Bishop, C. T.** *read* **Bishop, Carl T.**
Index, p. 110, column 2, lines 32 and 33, *for* **Wood, R.** *read* **Wood, Randall**
Index, p. 131, column 1, line 13, *for* **Bishop, C. T.** *read* **Bishop, Carl T.**
Index, p. 134, column 2, line 18, *for* **3-bromo-3-oxopentyl** *read* **3-bromo-4-oxopentyl**
Index, p. 135, column 1, line 38, *for* GLC *read* GSC
Index, p. 147, column 2, line 73, *for* **α,α'-diacetyl-3,3′-dimethyl-,** *read* **4,4′-diacetyl-3,3′-dimethyl-,**
Index, p. 151, column 1, line 37, *for* 560 *read* 550
Index, p. 155, column 2, line 18, *for* 4303 *read* 4393
Index, p. 156, column 2, line 14, *for* 998 *read* 999
Index, p. 165, column 2, line 55, *for* 3689 *read* 3698
Index, p. 171, column 1, line 57, *for* Amido black 108 *read* Amido black 10B
Index, p. 171, column 2, line 5, for *Mordant Red* 3. read *Mordant Blue* 3.
Index, p. 186, column 1, line 50, *for* 4540 *read* 2540
Index, p. 186, column 2, line 4, *for* 4102 *read* 2102
Index, p. 187, column 2, *after entry for* **Immunoglobulin** *insert*
Indane, detection, with deriv., in cigarette smoke, by GLC - mass spectrom., 1863.
Index, p. 194, column 2, line 72, *for* 1508 *read* 1058
Index, p. 198, column 1, line 26, *for* JB-4 *read* JP-4 fuel
Index, p. 209, column 1, *delete lines* 25 *and* 26
Index, p. 211, column 2, line 3, *for* 3564C *read* 3664C
Index, p. 211, column 2, line 31, *for* calorim. *read* colorim.
Index, p. 212, column 2, line 26, *for* **D-(±)-pantothenyl** *read* **D(+)-pantothenyl**
Index, p. 215, column 1, line 51, *for* **α-nitro-,** *read* **4-nitro-,**
Index, p. 216, column 1, line 41, *after this line insert entry*
—, **bis(alkyl-,** detmn. of purity of, paper chrom., 2565.
Index, p. 218, column 2, line 26, *for* 3243 *read* 3437
Index, p. 219, column 1, *transpose lines* 71 *and* 72
Index, p. 237, column 2, line 36, *for* **4-hydroxyphenacy,** *read* **4-hydroxyphenacyl,**
Index, p. 237, column 2, line 67, *for* AIN *read* AlN
Index, p. 251, column 2, line 40, *for* 2913 *read* 3913
Index, p. 252, column 2, line 25, *for* 2766 *read* 2776

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Abstract No.	*Line*	
3835	3	*for* Chan Ty Hyeu *read* Chan Ti Huu
3869	6	*for* $\mathrm{H_4GeMO_{12}O_{14}}$ *read* $\mathrm{H_4GeMo_{12}O_{40}}$
3869	13	*for* $1{\cdot}34 \times 10_5$ *read* $1{\cdot}34 \times 10^5$

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Abstract No.	*Line*	
74	6	*for* C *read* Cu
184	3	*for* Tetsuo Yonekubo *read* Tatsuo Yonekubo
211	3	*for* T. Anfaelt *read* T. Anfalt
531	15	*for* L-histamine *read* L-histidine
561	19	*for* hyproregnerative *read* hyporegenerative
571	1	*for* **6-methyuracil** *read* **6-methyluracil**
622	2	*this line should read* **with electronic processing of results. I.** I. Alsos,
679	3	*for* R. T. Ranz and H. S. L. Wood *read* R. J. Ranz and H. S. L. Woo
792	7	*for* phosnichlor *read* chlorthion[*O*-(3-chloro-4-nitrophenyl) *OO*-dimethyl phosphorothioate]
1060	3	*for* Sitmara *read* Sitarama
1153	7	*for* bis-2-(ethylhexyl) *read* bis-(2-ethylhexyl)
1198	2	*for* L. Narushkyavichyus *read* L. Naruskevicius
1346	3	*for* M. F. Tysganova *read* M. F. Tsyganova
1350	20	*for* Part X *read* Part XX
1658	2	*for* **is** *read* **in**
1705	1	*insert* **Analysis of mixtures of drugs. XIII.** *before* **4-Chloro-7-nitrobenzofuran**
1749	2	*for* F. Dawert *read* F. Drawert
1814	21	*for* $\mathrm{BaCNO_3)_2}$ *read* $\mathrm{Ba(NO_3)_2}$
2017	5	*this line should read* Netherlands). *J. Am. chem. Soc.*, 1968, **90** (12),
2026	3	*for* Anfaelt *read* Anfalt
2127	4	*for* Pintkovskaya *read* Piontkovskaya
2342	5	*insert* (8), *before* 463–467
2385	2	*for* B. Biebr *read* B. Bibr
2419	2	*insert* [Inventors: Janos Nagy and Klara Zsigmond] *after* Muvek
2436	8	*for* GLC *read* GSC
2479	4	*for* D. V. Siva Sanakar *read* D. V. Siva Sankar
2479	4	*insert* Coll., London, W. C. 2, England). *J. Chromat.*, 1969, *after* King's
3307	4	*for* Abner I. Scherartz *read* Abner I. Schepartz
3318	6	*for* bubbling with *read* with bubbling
3380	2	*after* **fish.** *insert* **III. Application to elasmobranch fish.**
3524	4	*for* T. S. Herman **read** T. S. Hermann
3586	8	for $H \alpha I_{\mathrm{m}}$ read $H \propto I_{\mathrm{m}}$
3586	9	for $m/e\ \alpha\ I_{\mathrm{m}}^2$ read $m/e \propto I_{\mathrm{m}}^2$
3692	2	*Insert* Hamme (N. Carolina State Univ., Raleigh, *after* J. V.
3866	3	*for* R. Ftanke *read* R. Franke
3912	3	*for* K. Hirowaka *read* K. Hirokawa
3942	10	*for* δM-HCl *read* 8M-HCl
3942	14	*for* $^{102}\mathrm{Ir}$ *read* $^{192}\mathrm{Ir}$
4044	10	*for* dilution *read* elution
4064	19	*for* **16,** 1385 *read* **19,** 406
4146	11	*for* **I** or **II** *read* isoniazid (**I**) or isonicotinic acid (**II**)
4269	2	*insert* **I.** *after* **membranes.**
4404	3	*for* W. H. Horng *read* W. H. Hong
4443	18	*for* TLC *read* GLC
4596	2	*for* M. Deprocq-Stratmains *read* M. Deporcq-Stratmains
4646	24	*for* $\pm\ 0{\cdot}1$: *read* $\pm\ 0{\cdot}1\%$
5203	3	*for* A. Prieto *read* A. Prieto Bouza
5295	4	*for* K. Tomano *read* K. Tomono

JOURNALS

The following list contains the names of journals (and their abbreviations) from which papers hav been abstracted regularly during 1970. Journals that have been omitted are those that contain only a occasional analytical paper, and a number of Russian journals from which translated abstracts have bee published through the medium of *Referativnyi Zhurnal.*

The abbreviations, in italics, after the full names of the journals refer to the languages in which th journals are published.

Acta chem fenn.	Acta Chemica Fennica [*Eng.*]
Acta chem. scand.	Acta Chemica Scandinavica [*Eng.*]
Acta chim. hung.	Acta Chimica Academiae Scientiarum Hungaricae [*Eng.*, *Ger.*
Acta pharm. hung.	Acta Pharmaceutica Hungarica [*Hung.*]
Acta pharm. jugosl.	Acta Pharmaceutica Jugoslavica [*Serbo-Croat*]
Acta pharm. suec.	Acta Pharmaceutica Suecica [*Eng.*]
Acta Pol. pharm.	Acta Poloniae Pharmaceutica [*Pol.*]
Aerztl. Lab.	Aerztliche Laboratorium [*Ger.*]
Afinidad	Afinidad [*Span.*]
Agric. biol. Chem.	Agricultural and Biological Chemistry [Tokyo] [*Eng.*]
AMDEL Bull.	Bulletin of the Australian Mineral Development Laboratorie [*Eng.*]
Am. ind. Hyg. Ass. J.	American Industrial Hygiene Association Journal [*Eng.*]
Am. Miner.	American Mineralogist [*Eng.*]
Analyst, Lond.	Analyst [*Eng.*]
Analyt. Biochem.	Analytical Biochemistry [*Eng.*]
Analyt. Chem.	Analytical Chemistry [*Eng.*]
Analytica chim. Acta	Analytica Chimica Acta [*Eng.*, *Fr.*, *Ger.*]
Analyt. Lett.	Analytical Letters [*Eng.*, *Fr.*, *Ger.*]
An. Asoc. quim. argent.	Anales de la Asociacion Quimica Argentina [*Span.*]
An. Bromat.	Anales de Bromatologia [*Span.*]
Angew. Chem., int. Edn	Angewandte Chemie, International Edition [*Eng.*]
Annali Chim.	Annali di Chimica [*Ital.*]
Annali Ist. sup. Sanita	Annali dell'Istituto Superiore di Sanita [*Eng.*, *Fr.*, *Ital.*]
Annls Chim.	Annales de Chimie [*Fr.*]
Annls pharm. fr.	Annales Pharmaceutiques Francaises [*Fr.*]
An. Quim.	Anales de Quimica de la Real Sociedad Espanola de Fisica Quimica [*Span.*]
Antibiotiki	Antibiotiki [*Russ.*]
Appl. Optics	Applied Optics [*Eng.*]
Appl. Spectrosc.	Applied Spectroscopy [*Eng.*]
Arch. EisenhuettWes.	Archiv fuer das Eisenhuettenwesen [*Ger.*]
Arch. Pharm., Berl.	Archiv der Pharmazie (und Berichte der Deutschen pharmazeutischen Gesellschaft) [*Ger.*]
Arch. Tox.	Archiv fuer Toxikologie [*Ger.*]
Ark. Kemi	Arkiv foer Kemi [*Eng.*]
Armyan. khim. Zh.	Armyanskii Khimicheskii Zhurnal [*Russ.*]
Arzneimittel-Forsch.	Arzneimittel-Forschung [*Ger.*]
Atom. Absorp. Newsl.	Atomic Absorption Newsletter [*Eng.*]
Atomn. Energ.	Atomnaya Energiya [*Russ.*]
Aust. J. Chem.	Australian Journal of Chemistry [*Eng.*]
Azerb. khim. Zh.	Azerbaidzhanskii Khimicheskii Zhurnal [*Russ.*]
Beitr. Tabakforsch.	Beitraege zur Tabakforschung [*Eng.*, *Ger.*]
Biochem. biophys. Res. Commun.	Biochemical and Biophysical Research Communications [*Eng.*]
Biochem. J.	Biochemical Journal [*Eng.*]
Biochim. biophys. Acta	Biochimica et Biophysica Acta [*Eng.*]
Biokhimiya	Biokhimiya [*Russ.*]
B.I.S.R.A. Open Rep.	B.I.S.R.A. Open Report [*Eng.*]
Boll. chim.-farm.	Bollettino Chimico-Farmaceutico [*Ital.*]
Boll. Laboratori chim. prov.	Bollettino dei Laboratori Chimici Provinciali [*Ital.*]
Boll. Soc. ital. Biol. sper.	Bollettino della Societa Italiana di Biologia Sperimentale [*Ital.*]
Brauwissenschaft	Brauwissenschaft [*Ger.*]
Br. med. J.	British Medical Journal [*Eng.*]
Bull. Acad. pol. Sci., Ser. Sci. chim.	Bulletin de l'Academie Polonaise des Sciences. Serie des Sciences Chimiques [*Eng.*]
Bull. agric. Chem. Insp. Stn	Bulletin of the Agricultural Chemical Inspection Station [*Jap.*]
Bull. chem. Soc. Japan	Bulletin of the Chemical Society of Japan [*Eng.*]
Bull. environ. Contam. Toxic.	Bulletin of Environmental Contamination and Toxicology [*Eng.*]
Bull. Narcot.	Bulletin on Narcotics [*Eng.*]
Bull. Soc. Chim. biol.	Bulletin de la Societe de Chimie Biologique [*Fr.*]
Bull. Soc. chim. Fr.	Bulletin de la Societe Chimique de France [*Fr.*]
Bull. Trav. Soc. Pharm. Lyon	Bulletin des Travaux de la Societe de Pharmacie de Lyon [*Fr.*]

Can. J. Biochem.	Canadian Journal of Biochemistry [*Eng.*]
Can. J. Chem.	Canadian Journal of Chemistry [*Eng.*]
Can. J. pharm. Sci.	Canadian Journal of Pharmaceutical Science [*Eng.*]
Can. Spectrosc.	Canadian Spectroscopy [*Eng., Fr.*]
Carbohyd. Res.	Carbohydrate Research [*Eng., Ger.*]
Cas. Lek. cesk.	Casopis Lekaru Ceskych [*Czech*]
Cereal Chem.	Cereal Chemistry [*Eng.*]
Cereal Sci. Today	Cereal Science Today [*Eng.*]
Chem. Engng News	Chemical & Engineering News [*Eng.*]
Chemia analit.	Chemia Analityczna [*Eng., Fr., Ger., Pol.*]
Chemicke Listy	Chemicke Listy [*Czech*]
Chemicke Zvesti	Chemicke Zvesti [*Eng., Fr., Ger., Russ.*]
Chemicky Prum.	Chemicky Prumysl [*Czech*]
Chemie-Ingr-Tech.	Chemie-Ingenieur-Technik [*Ger.*]
Chemikerzeitung—chem. Appar.	Chemiker-Zeitung—Chemische Apparatur [*Ger.*]
Chemistry, Taipei	Chemistry, Taipei [*Chin.*]
Chem. pharm. Bull., Tokyo	Chemical & Pharmaceutical Bulletin [*Eng., Ger.*]
Chem. Tech., Berl.	Chemische Technik [*Ger.*]
Chemy Br.	Chemistry in Britain [*Eng.*]
Chemy Ind.	Chemistry and Industry [*Eng.*]
Chim. analyt.	Chimie Analytique [*Fr.*]
Chimia	Chimia [*Eng., Fr., Ger.*]
Chimica Ind., Milano	Chimica e l'Industria [*Ital.*]
Clin. Chem.	Clinical Chemistry [*Eng.*]
Clinica chim. Acta	Clinica Chimica Acta [*Eng., Fr., Ger.*]
Colln Czech. chem. Commun.	Collection of Czechoslovak Chemical Communications [*Eng., Ger.*]
Column	Column: Pye Unicam Chromatography Bulletin [*Eng.*]
C. r. Acad. bulg. Sci.	Compte Rendu de l'Academie Bulgare des Sciences [*Eng., Fr., Ger.*]
C. r. hebd. Seanc. Acad. Sci., Paris	Compte Rendu Hebdomadaire des Seances de l'Academie des Sciences [*Fr.*]
Croat. chem. Acta	Croatica Chemica Acta [*Eng., Ger.*]
Cslka Farm.	Ceskoslovenska Farmacie [*Czech, Slovak*]
Curr. Sci.	Current Science [*Eng.*]
Dissnes pharm. pharmac.	Dissertationes Pharmaceuticae et Pharmacologicae [*Eng.*]
Dokl. Akad. Nauk SSSR	Doklady Akademii Nauk SSSR [*Russ.*]
Dokl. Akad. Nauk tadzhik. SSR	Doklady Akademii Nauk Tadzhikskoi SSR [*Russ.*]
Dokl. Akad. Nauk uzbek. SSR	Doklady Akademii Nauk Uzbekskoi SSR [*Russ.*]
Double Liaison	Double Liaison [*Fr.*]
Dt. ApothZtg	Deutsche Apotheker-Zeitung [*Ger.*]
Dt. LebensmittRdsch.	Deutsche Lebensmittel-Rundschau [*Ger.*]
Econ. Geol.	Economic Geology and Bulletin of the Society of Economic Geologists [*Eng.*]
Eczacilik Bult.	Eczacilik Bulteni [*Turk.*]
Environ. Sci. Technol.	Environmental Science & Technology [*Eng.*]
Enzymologia	Enzymologia [*Eng.*]
Erdoel Kohle Erdgas Petrochem. Brennst.-Chem.	Erdoel und Kohle, Erdgas, Petrochemie vereinigt mit Brennstoff-Chemie [*Ger.*]
Experientia	Experientia [*Eng., Ger.*]
Farbe Lack	Farbe und Lack [*Ger.*]
Farmaceuticky Obz.	Farmaceuticky Obzor [*Czech*]
Farmacia, Buc.	Farmacia, Bucharest [*Rom.*]
Farmacja pol.	Farmacja Polska [*Pol.*]
Farmaco, Ed. prat.	Farmaco, Edizione Pratica [*Fr., Ital.*]
Farmaco, Ed. scient.	Farmaco, Edizione Scientifica [*Eng., Ital.*]
Farmatsiya, Sof.	Farmatsiya [*Bulg.*]
Faserforsch. TextTech.	Faserforschung und Textiltechnik [*Ger.*]
Fette Seifen AnstrMittel	Fette, Seifen, Anstrichmittel [*Ger.*]
Flame Notes	Flame Notes [*Eng.*]
Flavour Ind.	Flavour Industry (formerly Perfumery and Essential Oil Record) [*Eng.*]
Fortschr. chem. Forsch.	Fortschritte der chemischen Forschung [*Ger.*]
Fuel, Lond.	Fuel [*Eng.*]
Geochim. cosmochim. Acta	Geochimica et Cosmochimica Acta [*Eng.*]
Geokhimiya	Geokhimiya [*Russ.*]
Getreide Mehl	Getreide und Mehl [*Ger.*]
Gidrokhim. Mater.	Gidrokhimicheskie Materialy [*Russ.*]
Gig. Sanit.	Gigiena i Sanitariya [*Russ.*]
G-I-T Fachz. Lab.	Glas-Instrumenten-Technik. Fachzeitschrift fuer das Laboratorium [*Eng., Ger.*]
Grasas Aceit.	Grasas y Aceites [*Span.*]

Helv. chim. Acta	Helvetica Chimica Acta [*Fr.*, *Ger.*]
Herba pol.	Herba Polonica [*Pol.*]
Hilger J.	Hilger Journal [*Eng.*]
Hlth Phys.	Health Physics [*Eng.*]
Hoppe-Seyler's Z. physiol. Chem.	Hoppe-Seyler's Zeitschrift fuer physiologische Chemie [*Ger.*]
Hutn. Listy	Hutnicke Listy [*Czech*]
Indian J. appl. Chem.	Indian Journal of Applied Chemistry [*Eng.*]
Indian J. Biochem.	Indian Journal of Biochemistry [*Eng.*]
Indian J. Chem.	Indian Journal of Chemistry [*Eng.*]
Indian J. Dairy Sci.	Indian Journal of Dairy Science [*Eng.*]
Indian J. Pharm.	Indian Journal of Pharmacy [*Eng.*]
Indian J. pure appl. Phys.	Indian Journal of Pure and Applied Physics [*Eng.*]
Indian J. Technol.	Indian Journal of Technology [*Eng.*]
Industrie agr.	Industrie Agrarie [*Ital.*]
Industrie chim. belge	Industrie Chimique Belge [*Flem.*, *Fr.*]
Infcion Quim. analit. pura apl. Ind.	Informacion de Quimica Analitica, Pura y Aplicada a la Industria [*Span.*]
Int. J. appl. Radiat. Isotopes	International Journal of Applied Radiation and Isotopes [*Eng.*, *Ger.*]
Int. Sug. J.	International Sugar Journal [*Eng.*]
Isotopenpraxis	Isotopenpraxis [*Ger.*]
Israel J. Chem.	Israel Journal of Chemistry [*Eng.*]
Ital. J. Biochem.	Italian Journal of Biochemistry [*Eng.*]
Izv. Akad. Nauk beloruss. SSR, Ser. khim. Nauk	Izvestiya Akademii Nauk Belorusskoi SSR, Seriya Khimicheskikh Nauk [*Russ.*]
Izv. Akad. Nauk kazakh. SSR, Ser. khim.	Izvestiya Akademii Nauk Kazakhskoi SSR, Seriya Khimicheskaya [*Russ.*]
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J. agric. Fd Chem.	Journal of Agricultural and Food Chemistry [*Eng.*]
J. Air Pollut. Control Ass.	Journal of the Air Pollution Control Association [*Eng.*]
J. Am. Oil Chem. Soc.	Journal of the American Oil Chemists' Society [*Eng.*]
J. Am. Wat. Wks Ass.	Journal of the American Water Works Association [*Eng.*]
Japan Analyst	Japan Analyst [*Jap.*]
J. appl. Chem., Lond.	Journal of Applied Chemistry [*Eng.*]
J. Ass. off. analyt. Chem.	Journal of the Association of Official Analytical Chemists [*Eng.*]
J. Ass. publ. Analysts	Journal of the Association of Public Analysts [*Eng.*]
J. biol. Chem.	Journal of Biological Chemistry [*Eng.*]
J. chem. Educ.	Journal of Chemical Education [*Eng.*]
J. chem. Soc. (*A*, *B*, *C*)	Journal of the Chemical Society (Sections A, B, C) [*Eng.*]
J. chem. Soc. Japan, ind. Chem. Sect.	Journal of the Chemical Society of Japan, Industrial Chemistry Section [*Jap.*]
J. chem. Soc. Japan, pure Chem. Sect.	Journal of the Chemical Society of Japan, Pure Chemistry Section [*Jap.*]
J. Chem. un. Arab Repub.	Journal of Chemistry of the United Arab Republic [*Eng.*]
J. Chin. chem. Soc., Taipei	Journal of the Chinese Chemical Society [*Eng.*]
J. Chromat.	Journal of Chromatography [*Eng.*, *Fr.*, *Ger.*]
J. chromat. Sci.	Journal of Chromatographic Science [*Eng.*]
J. clin. Path.	Journal of Clinical Pathology [*Eng.*]
J. Dairy Res.	Journal of Dairy Research [*Eng.*]
J. Dairy Sci.	Journal of Dairy Science [*Eng.*]
J. electroanalyt. Chem.	Journal of Electroanalytical Chemistry and Interfacial Electrochemistry [*Eng.*]
J. electrochem. Soc.	Journal of the Electrochemical Society [New York] [*Eng.*]
Jena Rev.	Jena Review [*Eng.*]
J. Fd Sci.	Journal of Food Science [*Eng.*]
J. forens. Sci.	Journal of Forensic Sciences, U.S.A. [*Eng.*]
J. forens. Sci. Soc.	Journal of the Forensic Science Society, U.K. [*Eng.*]
J. Indian chem. Soc.	Journal of the Indian Chemical Society [*Eng.*]
J. inorg. nucl. Chem.	Journal of Inorganic & Nuclear Chemistry [*Eng.*]
J. Inst. Brew.	Journal of the Institute of Brewing [*Eng.*]
J. Inst. Fuel	Journal of the Institute of Fuel [*Eng.*]
J. Inst. Metals	Journal of the Institute of Metals [*Eng.*]
J. Instn Chem., India	Journal of the Institution of Chemists (India) [*Eng.*]
J. Inst. Petrol.	Journal of the Institute of Petroleum [*Eng.*]
J. Iron Steel Inst.	Journal of the Iron and Steel Institute [*Eng.*]
J. Lab. clin. Med.	Journal of Laboratory and Clinical Medicine [*Eng.*]

J. labell. Compounds	Journal of Labelled Compounds [*Eng., Fr., Ger.*]
J. less-common Metals	Journal of the Less-Common Metals [*Eng.*]
J. Lipid Res.	Journal of Lipid Research [*Eng.*]
Jl S. Afr. chem. Inst.	Journal of the South African Chemical Institute [*Eng.*]
J. med. Lab. Technol.	Journal of Medical Laboratory Technology [*Eng.*]
J. Oil Colour Chem. Ass.	Journal of the Oil and Colour Chemists' Association [*Eng.*]
J. Paint Technol.	Journal of Paint Technology [*Eng.*]
J. Pharm. Belg.	Journal de Pharmacie de Belgique [*Fr.*]
J. Pharm. Pharmac.	Journal of Pharmacy and Pharmacology [*Eng.*]
J. pharm. Sci.	Journal of Pharmaceutical Sciences [*Eng.*]
J. pharm. Soc. Japan	Journal of the Pharmaceutical Society of Japan [*Jap.*]
J. Phys. D, appl. Phys.	Journal of Physics D, Applied Physics [*Eng.*]
J. Phys. E, scient. Instrum.	Journal of Physics E, Scientific Instruments [*Eng.*]
J. polarogr. Soc.	Journal of the Polarographic Society [*Eng.*]
J. prakt. Chem.	Journal fuer praktische Chemie [*Eng., Ger.*]
J. radioanalyt. Chem.	Journal of Radioanalytical Chemistry [*Eng., Fr., Ger.*]
J. Res. natn. Bur. Stand.	Journal of Research of the National Bureau of Standards [*Eng.*]
J. Sci. Fd Agric.	Journal of the Science of Food and Agriculture [*Eng.*]
J. Soc. Leath. Trades Chem.	Journal of the Society of Leather Trades' Chemists [*Eng.*]
J. Wat. Pollut. Control Fed.	Journal of the Water Pollution Control Federation [*Eng.*]

Kemija Ind.	Kemija u Industriji [*Serbo-Croat*]
Klin. Wschr.	Klinische Wochenschrift [*Ger.*]

Lab. Pract.	Laboratory Practice [*Eng.*]
Lait	Lait [*Fr.*]
Lancet	Lancet [*Eng.*]
Latv. PSR Zinat. Akad. Vest., Kim. Ser. see under *Izv. Akad. Nauk latv. SSR, Ser. khim.*	Latvijas PSR Zinatnu Akademija Vestis, Kimija Serija [*Russ.*] see under Izvestiya Akademii Nauk Latviiskoi SSR, Seriya Khimicheskaya [*Russ.*]
Limnol. Oceanogr.	Limnology and Oceanography [*Eng.*]
Lipids	Lipids [*Eng.*]

Magy. kem. Foly.	Magyar Kemiai Folyoirat [*Hung.*]
Magy. Kem. Lap.	Magyar Kemikusok Lapja [*Hung.*]
Meddr norsk farm. Selsk.	Meddelelser fra Norsk Farmaceutisk Selskap [*Eng., Ger.*]
Metal Finish.	Metal Finishing [*Eng.*]
Metalloberflaeche	Metalloberflaeche [*Ger.*]
Metallurgia	Metallurgia, Manchester, U.K. [*Eng.*]
Metallurgia ital.	Metallurgia Italiana [*Ital.*]
Meth. phys. Analyse	Methodes Physiques d'Analyse [*Fr.*]
Mh. Chem.	Monatshefte fuer Chemie und verwandte Teile anderer Wissenschaften [*Ger.*]
Microchem. J.	Microchemical Journal [*Eng.*]
Microscope	Microscope [*Eng.*]
Mikrochim. Acta	Mikrochimica Acta [*Eng., Fr., Ger.*]
Mitt. Geb. Lebensmittelunters. u. Hyg.	Mitteilungen aus dem Gebiete der Lebensmitteluntersuchung und Hygiene [*Ger.*]
Mitt. Rebe Wein, Obstb. Fruechteverwert.	Mitteilungen (Klosterneuberg). Rebe und Wein, Obstbau und Fruechteverwertung [*Ger.*]
Mschr. Brau.	Monatsschrift fuer Brauerei [*Ger.*]

Nahrung	Nahrung [*Ger.*]
Nature, Lond.	Nature [*Eng.*]
Naturwissenschaften	Naturwissenschaften [*Eng., Ger.*]
Nauch. Trudy tashkent. Univ.	Nauchnye Trudy Tashkentskogo Universitet [*Russ.*]
Neftekhimiya	Neftekhimiya [*Russ.*]
Neth. Milk Dairy J. [*Ned. Melk- en Zuiveltijdschr.*]	Netherlands Milk and Dairy Journal [English translation of Nederlandsch Melk- en Zuiveltijdschrift]
Neue Huette	Neue Huette [*Ger.*]
Nukleonika	Nukleonika [*Pol.*]
N.Z. Jl Sci.	New Zealand Journal of Science [*Eng.*]

Optics Spectrosc., N.Y. [*Optika Spektrosk.*]	Optics and Spectroscopy [English translation of Optika i Spektroskopiya]

Paint Mf.	Paint Manufacture [*Eng.*]
Papier, Darmstadt	Papier [*Ger.*]
Path. Biol., Paris	Pathologie et Biologie [*Fr.*]
Peint.-Pigm.-Vern.	Peintures-Pigments-Vernis [*Fr.*]
Perfum. essent. Oil Rec.	Perfumery and Essential Oil Record [*Eng.*]
Periodica polytech. chem. Engng	Periodica Polytechnica, Chemical Engineering [*Eng., Ger.*]
Perkin-Elmer Instrum. News	Perkin-Elmer Instrument News [*Eng.*]

Pharm. Acta Helv.	Pharmaceutica Acta Helvetiae [*Eng., Fr., Ger.*]
Pharmazie	Pharmazie [*Ger.*]
Pharm. J.	Pharmaceutical Journal [*Eng.*]
Pharm. Weekbl. Ned.	Pharmaceutisch Weekblad voor Nederland [*Dutch, Eng., Ger.*]
Pharm. Zentralhalle Dtl.	Pharmazeutische Zentralhalle fuer Deutschland [*Ger.*]
Photoelect. Spectrom. Grp Bull.	Photoelectric Spectrometry Group Bulletin [*Eng.*]
Plaste Kautsch.	Plaste und Kautschuk [*Ger.*]
Plast. Massy	Plasticheskie Massy [*Russ.*]
Plating	Plating [*Eng.*]
Pochvovedenie	Pochvovedenie [*Russ.*]
Powder Technol.	Powder Technology [*Eng.*]
Pr. Instw Hutn.	Prace Instytutow Hutniczych [*Pol.*]
Proc. Am. Soc. Brew. Chem.	Proceedings. American Society of Brewing Chemists [*Eng.*]
Proc. Indian Acad. Sci.	Proceedings of the Indian Academy of Sciences [*Eng.*]
Proc. Soc. analyt. Chem.	Proceedings of the Society for Analytical Chemistry [*Eng.*]
Prof. Pap. U.S. geol. Surv.	Professional Papers. United States Geological Survey [*Eng.*
Prum. Potravin	Prumysl Potravin [*Czech, Slovak*]
Pure appl. Chem.	Pure and Applied Chemistry [*Eng., Fr., Ger.*]
Pyrethrum Post	Pyrethrum Post [*Eng., Fr.*]
Quim. Ind., Bilbao	Quimica e Industria [*Span.*]
Radiochem. radioanalyt. Lett.	Radiochemical and Radioanalytical Letters [*Eng.*]
Radiochim. Acta	Radiochimica Acta [*Eng., Fr., Ger.*]
Radiokhimiya	Radiokhimiya [*Russ.*]
Rapp. CEA	Rapport. Commissariat a l'Energie Atomique [*Fr.*]
Rass. chim.	Rassegna Chimica [*Ital.*]
Recl Trav. chim. Pays-Bas	Recueil des Travaux Chimiques des Pays-Bas [*Eng.*]
Rep. atom. Energy Commn U.S.	Report. Atomic Energy Commission, United States [*Eng.*]
Rep. Invest. U.S. Bur. Mines	Report of Investigations. United States Bureau of Mines [*Eng.*]
Rep. U.K. atom. Energy Auth.	Report. United Kingdom Atomic Energy Authority [*Eng.*]
Rep. Warren Spring Lab.	Report of the Warren Spring Laboratory, Stevenage [*Eng.*]
Resonance Lines	Resonance Lines [*Eng.*]
Rev. Coal Tar Technol.	Review of Coal Tar Technology [*Eng.*]
Rev. scient. Instrum.	Review of Scientific Instruments [*Eng.*]
Revta Agroquim. Tecnol. Aliment.	Revista de Agroquimica y Tecnologia de Alimentos [*Span.*]
Revta Asoc. bioquim. argent.	Revista de la Asociacion Bioquimica Argentina [*Span.*]
Revta Chim.	Revista de Chimie [*Rom.*]
Revta Fac. Farm. Bioquim. Univ. S Paulo	Revista da Faculdade de Farmacia e Bioquimica da Universidade de Sao Paulo [*Port.*]
Revta Metal.	Revista de Metalurgia [*Span.*]
Revta port. Quim.	Revista Portuguesa de Quimica [*Port., Span.*]
Revta Soc. quim. Mex.	Revista de la Sociedad Quimica de Mexico [*Span.*]
Revta Univ. ind. Santander	Revista de la Universidad Industrial de Santander [*Span.*]
Revue roum. Chim.	Revue Roumaine de Chimie [*Eng., Fr., Ger.*]
Ricerca scient.	Ricerca Scientifica [*Ital.*]
Riechstoffe Arom. Koerperpflegemittel	Riechstoffe, Aromen, Koerperpflegemittel [*Ger.*]
Riv. ital. Sostanze grasse	Rivista Italiana delle Sostanze Grasse [*Ital.*]
Roczn. Chem.	Roczniki Chemii [*Eng., Fr., Ger., Pol.*]
Roczn. panst. Zakl. Hig.	Rocznik Panstwowego Zakladu Higieny [*Pol.*]
Ropa Uhlie	Ropa a Uhlie [*Czech, Slovak*]
S. Afr. J. agric. Sci.	South African Journal of Agricultural Science [*Afrik., Eng.*]
Sb. Trud. tsent. nauchno-issled. Inst. chern. Metall.	Sbornik Trudov Tsentral'nogo Nauchno-issledovatel'skogo Instituta Chernoi Metallurgii [*Russ.*]
Scand. J. clin. Lab. Invest.	Scandinavian Journal of Clinical & Laboratory Investigation [*Eng.*]
Scientia pharm.	Scientia Pharmaceutica [*Ger.*]
Sci. Tools	Science Tools [*Eng.*]
Sepn Sci.	Separation Science [*Eng.*]
Soil Sci.	Soil Science [*Eng.*]
Spec. Publs natn. Bur. Stand.	Special Publications. National Bureau of Standards [*Eng.*]
Spectrochim. Acta	Spectrochimica Acta [*Eng., Fr., Ger.*]
Spectrosc. Lett.	Spectroscopy Letters [*Eng.*]
Spectrovision	Spectrovision [*Eng.*]
Staerke	Staerke [*Ger.*]
Staub, Reinhalt. Luft	Staub, Reinhaltung der Luft [*Ger.*]
Steroids	Steroids [*Eng.*]
Studia Univ. Babes-Bolyai, Ser. Chem.	Studia Universitatis Babes-Bolyai, Series Chemia [*Rom.*]
Studii Cerc. Chim.	Studii si Cercetari de Chimie [*Rom.*]
Svensk PappTidn.	Svensk Papperstidning [*Eng., Ger.*]

Talanta	Talanta [*Eng.*, *Fr.*, *Ger.*]
TAPPI	TAPPI [Journal of the Technical Association of the Pulp and Paper Industry] [*Eng.*]
Technology, Sindri	Technology [*Eng.*]
Tenside	Tenside [*Ger.*]
Trans. Br. Ceram. Soc.	Transactions of the British Ceramic Society [*Eng.*]
Trans. Instn Min. Metall.	Transactions of the Institution of Mining and Metallurgy [*Eng.*]
Trav. Soc. Pharm. Montpellier	Travaux de la Societe de Pharmacie de Montpellier [*Fr.*]
Trib. CEBEDEAU	Tribune de CEBEDEAU [Centre Belge d'Etude et de Documentation des Eaux] [*Fr.*]
Trudy Khim. khim. Tekhnol. [*Gor'kii*]	Trudy po Khimii i Khimicheskoi Tekhnologii [*Russ.*]
Trudy Kom. analit. Khim.	Trudy Komissii po Analiticheskoi Khimii. Akademiya Nauk SSR [*Russ.*]
Trudy mosk. khim.-tekhnol. Inst.	Trudy Moskovskogo Khimiko-Tekhnologicheskogo Instituta imeni D. I. Mendeleeva [*Russ.*]
Trudy vses. nauchno-issled. Inst. khim. Reakt.	Trudy Vsesoyuznogo Nauchno-issledovatel'skogo Instituta Khimicheskikh Reaktivov [*Russ.*]
Uchen. Zap. azerb. gos. Univ., Ser. khim. Nauk	Uchenye Zapiski Azerbaidzhanskogo Gosudarstvennogo Universiteta, Seriya Khimicheskikh Nauk [*Russ.*]
Uchen. Zap. latv. gos. Univ.	Uchenye Zapiski Latviiskogo Gosudarstvennogo Universiteta [*Russ.*]
Uchen. Zap. perm. gos. Univ.	Uchenye Zapiski Permskogo Gosudarstvennogo Universiteta imeni M. Gor'kogo [*Russ.*]
Ukr. biokhim. Zh.	Ukrainskii Biokhimicheskii Zhurnal [*Russ.*]
Ukr. khim. Zh.	Ukrainskii Khimicheskii Zhurnal [*Russ.*]
Uzbek. khim. Zh.	Uzbekskii Khimicheskii Zhurnal [*Russ.*]
Vest. leningr. gos. Univ., Ser. Fiz. Khim.	Vestnik Leningradskogo Gosudarstvennogo Universiteta, Fizika, Khimiya [*Russ.*]
Vest. mosk. gos. Univ., Ser. Khim.	Vestnik Moskovskogo Gosudarstvennogo Universiteta, Seriya Khimiya [*Russ.*]
Wat. Res.	Water Research [*Eng.*]
Wat. Sewage Wks	Water & Sewage Works [*Eng.*]
Z. analyt. Chem.	Zeitschrift fuer analytische Chemie [*Eng.*, *Ger.*]
Z. anorg. allg. Chem.	Zeitschrift fuer anorganische und allgemeine Chemie [*Ger.*]
Zav. Lab.	Zavodskaya Laboratoriya [*Russ.*]
Z. Chemie, Lpz.	Zeitschrift fuer Chemie [*Ger.*]
Z. Erzbergb. MetallhuettWes.	Zeitschrift fuer Erzbergbau und Metallhuettenwesen [*Ger.*]
Zh. analit. Khim.	Zhurnal Analiticheskoi Khimii [*Russ.*]
Zh. neorg. Khim.	Zhurnal Neorganicheskoi Khimii [*Russ.*]
Zh. obshch. Khim.	Zhurnal Obshchei Khimii [*Russ.*]
Zh. prikl. Khim., Leningr.	Zhurnal Prikladnoi Khimii [*Russ.*]
Zh. prikl. Spektrosk.	Zhurnal Prikladnoi Spektroskopii [*Russ.*]
Z. klin. Chem. klin. Biochem.	Zeitschrift fuer klinische Chemie und klinische Biochemie [*Eng.*, *Ger.*]
Z. Lebensmittelunters. u. -Forsch.	Zeitschrift fuer Lebensmittel-Untersuchung und -Forschung [*Ger.*]
Z. med. Labortech.	Zeitschrift fuer Medizinische Labortechnik [*Ger.*]

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The organisations publishing the following journals, or their own abstracts, are thanked for allowing reproduction of some abstracts.

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Nutrition Abstracts and Reviews
Referativnyi Zhurnal, Biologicheskaya Khimiya, Section 30F
Referativnyi Zhurnal, Khimiya, Section 19GD
Water Pollution Abstracts
Welwyn Digest [Welwyn Hall Research Association Abstracts]
World Surface Coatings Abstracts
World Textile Abstracts
inc Abstracts

ABBREVIATIONS

Certain abbreviations in everyday use are not included in the following list. When any doubt might arise from the use of an abbreviation or symbol the word is printed in full.

alternating current	a.c.
ampere	amp.
Ångström unit	Å
aqueous	aq.
centimetre	cm
Colour Index (2nd Edition)	C.I.
concentrated	conc.
concentration	concn.
current density	c.d.
density, relative	*d* or wt. per ml
deoxyribonucleic acid	DNA
dihydronicotinamide-adenine dinucleotide	$NADH_2$ (not DPNH)
dilute (as adjective)	dil.
direct current	d.c.
electron volt	eV
ethylenediaminetetra-acetate	EDTA
gas - liquid chromatography	GLC
gas - solid chromatography	GSC
gram	g
gram-molecule	mole
half-wave potential	$E_{\frac{1}{2}}$
infra-red	i.r.
insoluble	insol.
international unit	i.u.
ionic strength	I
kilogram	kg
kilovolt	kV
kilowatt	kW
maxim-um, -a	max.
microgram	μg (not γ)
microlitre	μl
micrometre (not micron)	μm (not μ)
micromole	μmole
milliampere	mA
millicurie	mC
milli-equivalent	milli-equiv.
milligram	mg
millilitre	ml
millimetre	mm
millimolar	mM
millivolt	mV

minute (time)	min.
molar (concentration)	M
molecul-e, -ar	mol.
nanogram	ng
nanometre (not millimicron)	nm (not mμ)
nicotinamide-adenine dinucleotide	NAD (not DPN)
nicotinamide-adenine dinucleotide phosphate	NADP (not TPN)
normal (concentration)	N
nuclear magnetic resonance	NMR
optical rotation	α
parts per million	p.p.m.
per cent.	%
per cent. (vol. in vol.)	% (v/v)
per cent. (wt. in vol.)	% (w/v)
per cent. (wt. in wt.)	% (w/w)
poly(tetrafluoroethylene)	PTFE
potential difference	p.d.
precipitate (as a noun)	ppt.
precipitated	pptd.
precipitating	pptg.
precipitation	pptn.
refractive index	n_{λ}^{t}
relative band speed	R_F
revolutions per minute	r.p.m.
ribonucleic acid	RNA
saponification value	sap. val.
saturated calomel electrode	S.C.E.
second (time)	sec.
soluble	sol.
solution	soln.
specific rotation	$[\alpha]_{\lambda}^{t}$
square centimetre	sq. cm
standard temp. and pressure	s.t.p.
thin-layer chromatography	TLC
ultra-violet	u.v.
unit of pressure (mm Hg)	torr
volt	V
watt	W
weight	wt.

In addition, the following symbols may be used in conjunction with numerical values or in mathematical expressions—

greater than	$>$	less than	$<$
is proportional to	$\propto$	of the order of, approximately	$\simeq$

Abbreviations of journal titles used in the abstracts are, in general, those of the 'World List of Scientific Periodicals' (4th edn, 1964, Butterworths, London), but all diacritical marks are omitted, and the German ä, ö and ü and the Scandinavian ø (or ö) are transliterated as ae, oe, ue and oe, respectively.

The language in which an original paper is written is English unless otherwise specified.

The chemical nomenclature used in the abstracts is that recommended by The Chemical Society ('Handbook for Chemical Society Authors,' The Chemical Society, London, 1961), and may differ from that used in the original articles.

When possible, drugs are specified by their official B.P. or B.P.C. names, or by the Approved Names recommended by the British Pharmacopoeia Commission (8 Bulstrode Street, London, W1M 5FT).

The principal Pharmacopoeias are denoted by B.P., U.S.P. or D.A.B., together with the identifying roman numeral or year.

The names given to enzymes are those recommended by the International Union of Biochemistry ('Enzyme Nomenclature,' Elsevier Publishing Co., London, 1965).

Pesticides are named in accordance with the British Standard 1831 : 1969, 'Recommended Common Names for Pesticides' (British Standards Institution, 2 Park St., London, W1A 2BS).

ANALYTICAL ABSTRACTS

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Instytut Chemii Ogolnej. Continuous determination of gaseous halogenated organic compounds and hydrogen halides in gases, 807P.
International Atomic Energy Agency. Neutron capture gamma-ray spectroscopy, *Book*: Aug. *In vitro* procedures with radioisotopes in medicine. Proceedings of symposium, *Book*: Oct.
International Conference of Benzole Producers. GLC analysis of hydrocarbon mixtures, 4042.
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